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ABSTRACT

This paper considers the latest evidence on recruitment to maths Postgraduate Certificate in Education (PGCE) courses and attempts to place the data in the context of the past twenty years. It also examines what evidence there is regarding the number of qualified maths teachers working in the maintained secondary schools system in England. Finally, it considers the degree of success of recent policies to increase the number of trained maths teachers and the government's evidence of the need for more teachers. (Author)

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A Good Start - But Is It Enough?

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Abstract

This paper considers the latest evidence on recruitment to maths PGCE courses and attempts to place the data in the context of the past twenty years. It also examines what evidence there is regarding the number of qualified maths teachers working in the maintained secondary schools system in England. Finally, it considers the degree of success of recent policies to increase the number of trained maths teachers and the government's evidence of the need for more teachers.

Schemes to encourage recruitment to teaching originated in the recruitment crises of the 1980s. Indeed, for most of the past fourteen years, the supply of qualified applicants has been insufficient to fill all the places on offer on maths ITT courses. In 1986, a financial incentive to teach was introduced in the form of a non means-tested, tax-free bursary that was additional to the student grant. Initially, this was only for those training as teachers of mathematics, physics or technology. (Bullock et al., 1989). Over the years the range of subjects covered by the bursary was extended as recruitment ebbed and flowed. For three years in the early 1990s there were no official recruitment problems. This led to a decision by the DfEE to abolish the bursary scheme in 1996. It was replaced in England, in 1997, by the Priority Subject Recruitment Initiative (PSRI), a scheme with a wider range of aims than a simple flat rate bursary to support students in subjects designated as shortages. The PSRI Scheme in England was in turn was replaced by the Shortage Subject Support Scheme (SSSS) in 1998 (TTA, 1997), although it continued in Wales.

In October 1998 the DfEE announced the introduction of 'golden hellos' for maths trainees on postgraduate programmes (DfEE, 1998). The most recent development was the announcement of training grants for all PGCE students entering training after September 2000 in England and Wales (DfEE, 2000, NAW, 2000). For math students this grant is in addition to the 'golden hello'.

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Alongside the financial incentives introduced in the 1980s, the DES also established a unit to promote teaching as a career. This was known originally known as the Teaching as a Career Unit (TASC). On the establishment of the Teacher Training Agency (TTA) in 1995 the functions of the TASC unit were taken over by the TTA. In 1996 the TTA established its own teacher supply and recruitment team. The TTA team has worked alongside the DfEE in the operation of the recruitment incentive schemes in England ever since. Separate arrangements apply in Wales.

This article considers evidence on the early contribution that the most recent incentive schemes introduced since the autumn of 1998 may have played in recruitment to maths ITT post graduate courses recruited through the Graduate Teacher Training Registry (GTTR). The Registry handles most applications for secondary PGCE courses in England and Wales with the exception of some school centred courses (SCITTs). GTTR does not handle applications to the Open University PGCE course.

Table 1: Applications to GTTR for secondary PGCE courses in mathematics

Year	Applications	Notes
1994	2,372	
1995	2,176	
1995	1,873	
1996	1,579	
1997	1,288	
1998	1,671	Golden Hellos introduced in autumn 1998 for 1999 Entry
1999	1,776	Training Grants introduced March 2000 for 2000 Entry
2000	2,031	to 23rd September 2001

(Source: GTTR, 2000)

As the figures for recruitment to mathematics courses, as opposed to simply applications, show (Table 2), recruitment fell away during the mid 1980s, recovered, and then fall away slightly to reach a low in 1990-91. The next three years witnessed a significant turnaround as recruitment rose by a third in two years during the period

that the economy was in recession. By 1995-96 recruitment had started to fall away sharply to reach a low point in 1998-99. In November 1998 the introduction of 'golden hellos' had a positive effect and recruitment picked up for the first time in six years. The following recruitment round did not produce any further significant increase in recruitment over 1999-2000. This was mainly due to a collapse in the

Table Two: Recruitment to all ITT maths courses

Courses starting	Target	Recruited	Shortfall	% short fall
1983-84	1164	1122	42	4%
1984-85	1184	993	191	16%
1985-86	1201	858	343	29%
1986-87	1275	901	374	29%
1987-88	1383	1194	189	14%
1988-89	1572	1143	429	27%
1989-90	1533	1138	395	26%
1990-91	1727	1091	636	37%
1991-92	1215	1550	-335	(-24%)*
1992-93	1715	1874	-159	(-9%)*
1993-94	1935	2010	- 75	(-4%)*
1994-95	2155	2050	105	5%
1995-96	2380	1890	490	21%
1996-97	2700	1770	930	34%
1997-98	2370	1540	830	35%
1998-99	2270	1190	1080	48%
1999-00[a]	1680	1390	290	17%
2000-01	1850	1380	470	25%

[a] Excludes the 500 places removed for employment based route scheme; * Surplus

Source: School Teachers Review Body Annual Reports 1993-2001

undergraduate route, where students were faced with the double 'whammy' of both being liable for tuition fees and exclusion from access to the Training Grant.Evidence from the 2000-01 recruitment round is that applications for centrally recruited PGCE

courses has risen sharply to reach its highest level for 6 years. No details about undergraduate numbers is yet available.

The overall shortfall during period 1983-84 to 2000-01 left just over 6,000 maths places unfilled.

Table 3: Recruitment to undergraduate ITT courses in maths

1992/93	452
1993/94	283
1994/95	425
1995/96	373
1996/97	296
1997/98	na
1998/99	192
1999/2000	193 plus 23 Autumn Term GTP
2000/01	147 plus 37 Autumn Term GTP

Using the maths figures it would seem that the introduction of the bursary in 1986 had a short lived positive effect on recruitment. Applications rose in 1986-87 and 1987-88 before starting their decline to the low point in 1990-91. By that time two changes had taken place that affected the potential supply of new recruits. Firstly, the economy had entered recession and secondly, higher education had begun to expand. The effect of these two factors during the early 1990s allowed recruitment to maths courses to pick up quickly reaching a high in 1993-94. It was when these figures were released that the DfEE began to consider the future of the bursary scheme. The prevailing view, possibly supported by the Treasury, was that the bursary was being paid unnecessarily to many students who would have chosen to become a teacher even if there had been no financial support. The cost of attracting each additional new teacher was, therefore, thought to be very great in cash terms. (Charts 1 to 3)

CHART 1: RECRUITMENT TO MATHS ITT COURSES

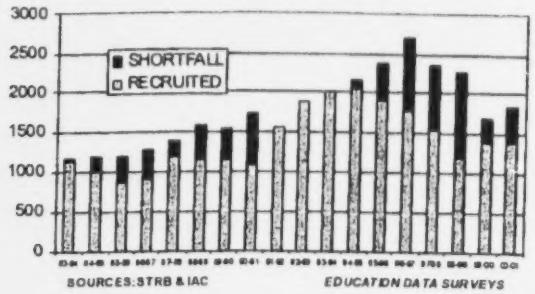


CHART 2: RECRUITMENT TO MATHS ITT COURSES

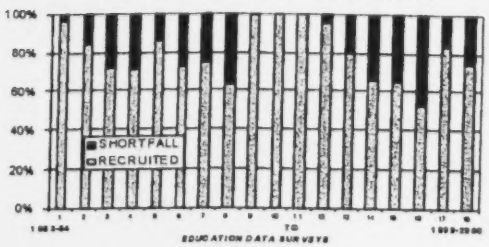
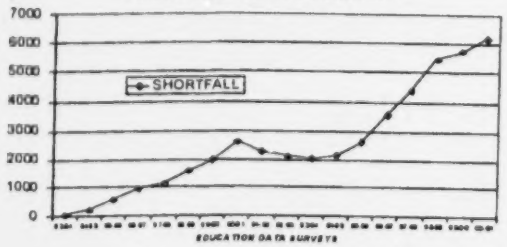


CHART 3: CUMULATIVE SHORTFALL



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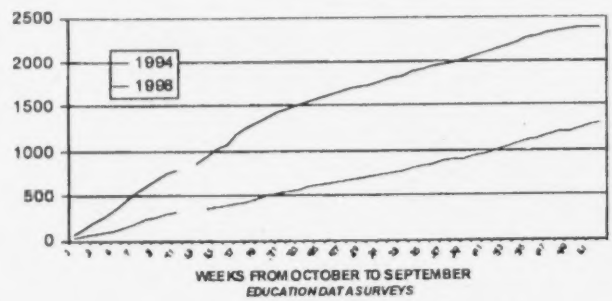
The decision was taken to replace the bursary with a new scheme, the Priority Subject Recruitment Initiative (PSRI), to be run by the newly formed Teacher Training Agency (TTA). The basis for this new initiative was that providers would bid for funding. This funding could be used both for recruitment activities and student support that could include a bursary element, but was not to be confined to just a bursary. The allocation of funds for marketing purposes directly to ITT providers marked a new departure.

The PSRI scheme was launched just as recruitment started to decline rapidly. Within two years the original scheme was repackaged by the Teacher Training Agency as the Shortage Subject Support Scheme (SSSS). (TTA, 1997)

The background of an improving economy and constant criticism of schools meant that these 'difficult to market and problematic to administer schemes' seemed to be able to do little to stem the decline in recruitment. In 1996, there was the first of the two House of Commons Select Committee Reports on teacher supply (House of Commons, 1997). This was followed within a year by a second report from the same

CHART 4: APPLICATIONS FOR PGCE MATHS COURSES
WEEK BY WEEK



Committee (House of Commons, 1998). Commentators were already warning about the effects of a decline in the number of applications against a rise in the training targets needed to accommodate both a rising tide of early retirements and the under-

recruitment of previous years. (Robinson & Smithers, 1998). (House of Commons, 1998).

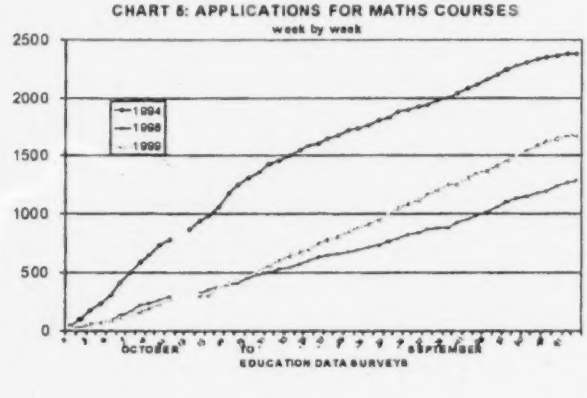
The next step came in November 1998 with the announcement of the 'golden hellos' scheme by Estelle Morris on behalf of the DfEE (DfEE, 1998). At that time, in November 1998, recruitment for entry to the 1999 courses was already below the same period in 1997, for entry to the 1998 courses, (Chart 4)

Allowing for time to publicise the scheme and for the Christmas holiday period, it is not surprising that it was not until January 1999 that recruitment began to pick up. The improvement for the rest of the year was significant.

The end result was an increase in recruitment of 400 extra students. The percentage of unfilled places declined even more dramatically as the DfEE stripped out 500 training places from the higher education target to trial a new employment based initiative.

Despite the early failure of that initiative, those training places have yet to be fully added back into the higher education ITT training target. (Chart 5)

CHART 5: APPLICATIONS FOR MATHS COURSES



Training grants

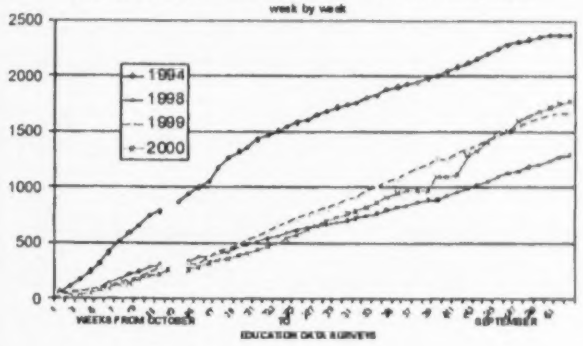
In late March 2000 the DfEE unexpectedly announced a new initiative offering a training grant of £6,000 to all students that entered postgraduate courses from September 2000. Maths trainees could, therefore, receive up to £10,000 over two years. (DfEE, 2000), (NAW, 2000)

When these measures were announced, recruitment, even in the 'golden hellos' subjects, such as maths had been weak since the start of the recruitment cycle. ITT managers attending the UCET Management Forum members had been warned in as early as November 1999 that it was likely to prove a difficult recruitment cycle (Howson, 1999).

An analysis of applications to GTTR for March 2000 compared with the same date in 1999 revealed that much of the reduction in applications in the early part of the recruitment cycle was due to a collapse in applications from people over 25. Indeed, applications from new graduates were holding up very well, even before the March announcement. (See Table 4.)

Between the end of March 2000 and September 2000 there was some additional growth in applications, but it was only in the order of 5% for maths PGCE courses. (Barnard, 2000) (Chart 6)

CHART 6: APPLICATIONS FOR PGCE MATHS COURSES



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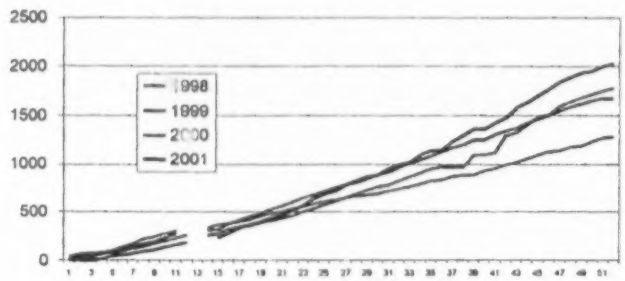
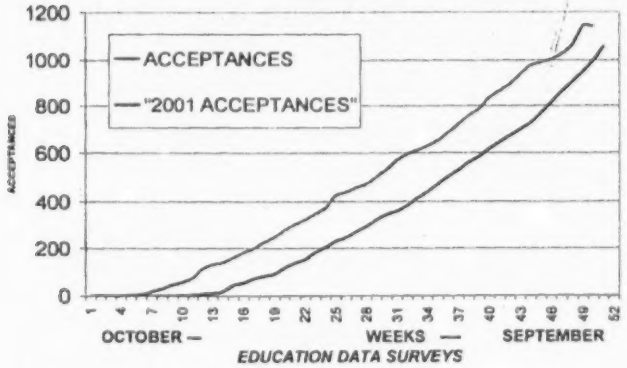
The recruitment cycle for the 2001 courses again started slowly, and did not pick up momentum until the early spring of 2001. Indeed, it was not until two-thirds of the way through the recruitment cycle that applications first exceeded those for the 1999 (post golden hellos) cycle. However, from May to September 2001 there was a surge in applications that took total numbers of applications to some 14% above the level of September 2000. (Chart 7)

CHART 7: APPLICATIONS FOR PGCE COURSES WEEK BY WEEK



Applications are one thing, acceptances of those who apply is another matter. Not enough is known of the decision making process adopted by admission tutors, but it may be that when applications are thought to be falling there is an incentive to recruit as many students as possible. However, when incentives are introduced, such as the 'golden hellos' and training grants, tutors may expect an increase in applications and become more careful about offering places, as they expect more applicants to be able to select from. The evidence certainly suggests that acceptances for places on the 2001 courses have lagged behind those for the 1999 courses despite the increase in applications. (Chart 8)

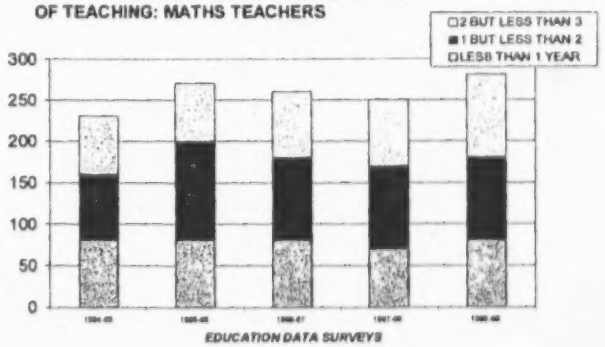
CHART 8: MATHS GTTR ACCEPTANCES 1999 & 2001
WEEK BY WEEK



EDUCATION DATA SURVEYS

As yet, it is too early to know whether applicants recruited onto courses following the introduction of the 'golden hellos' and the training grants are more likely to remain in teaching than their predecessors. Generally, around 250 teachers in their first three years of maths teaching leave the profession each year, according to figures from the DFEE (Hansard, 2001). The number of those leaving seemed to be increasing in the late 1990s, the last years that figures are available for at present. (Chart 9)

CHART 9: LEAVERS IN FIRST THREE YEARS OF TEACHING: MATHS TEACHERS



EDUCATION DATA SURVEYS

Issues for discussion

How successful have the training grants been? On the one hand, they were introduced part way through the recruitment cycle when many final year students had already found jobs or were committed to postgraduate study. This may have reduced the number of possible applicants in their first year of operation. An analysis of the age of applicants to GTTR reveals that there was a rise in the relative percentage of older applicants in the total number of applicants for secondary PGCEs between the position in March before the training grants were announced and October 2000, as courses commenced. This suggests that the Grants may not have been as successful at attracting new young graduates as might have been predicted. (See Table 4). A similar analysis of this recruitment round has yet to be undertaken.

Table 4 – Age of applicants to GTTR for secondary PGCE course starting in autumn 2000 as at March and October 2000

	Male March	Male October	Female March	Female October	Change Male	Change Female
20-24	51%	39%	61%	52%	-12%	-9%
25-30	26%	27%	20%	24%	+ 1%	+4%
31-40	16%	22%	13%	16%	+ 6%	+3%
40+	8%	13%	6%	8%	+ 5%	+2%

On the other hand, as a simple national scheme the Training Grants, like the original bursary scheme, are easy to advertise compared to relatively complicated PSRI and SSSS initiatives that differed from provider to provider in their exact composition. However, even the latest schemes still offer nothing to encourage job changers who still enter training without the certainty of a teaching post on completion of their courses.

Conclusion

Have the grants been more successful in a full recruitment cycle? The evidence from their first full year would seem to be positive, at least as far as applications are

concerned. However, with the transfer of the cost of higher education from the State to the individual, any training course will have to compete both with a student's desire to minimise their existing levels of debt and their views of teaching as a career. New initiatives also draw in those who might have delayed entering teaching. This can produce an inflated first year recruitment figure. The recruitment round for courses starting in 2001 has been further complicated by the introduction of the Fast Track Initiative (DfEE, 1999) by the government, although initial numbers applying have been relatively low.

What is certain is, that unless teaching remains competitive with other careers in terms of remuneration, working conditions and incentives, the accumulated deficit in the number of teachers trained in recent years will not be reduced. As many teachers will reach retirement age during the next ten years, society cannot afford a prolonged period of under recruitment to ITT courses. Without sufficient able and well-qualified teachers it may become more difficult to meet the government's improvement targets for maths.

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